

REMARKS

Claims 56 and 57 have been amended to remove the term “closely”. Applicant submits that no new matter was added by this amendment.

Claim 77 has been amended to include the limitation that the fiberglass reinforced plastic composite has a bundle of fiberglass fibers. Support for this amendment may be found throughout the present application including paragraphs [0005], [0006], and [0008]. Applicant submits that no new matter was added by this amendment.

Applicant has added new claims 93-96 which include the limitation that the post has a modulus of elasticity less than or equal to that of tooth dentin. Support for this amendment may be found throughout the present application including the Abstract. Applicant submits that no new matter was added by this amendment.

Applicant has added new claims 97-100 which include the limitation that the bundle of fiberglass fibers are loosely compacted and cured in the resin. Support for this amendment may be found throughout the present application including paragraphs [0037] and [0085].

Claim 77 stands rejected under 35 U.S.C. 102(b) as being anticipated by Weissman (5326263). Applicant has amended claim 77 to include the limitation that the fiberglass reinforced plastic composite has a bundle of fiberglass fibers. The Examiner indicated that the previously presented claim 77 was not limited to a bundle of fibers. Since Weissman does not

disclose a dental post made of a bundle of fiberglass fibers, Applicant submits that this rejection has been overcome. Therefore, Applicant requests reconsideration and allowance of the claim.

Claims 33, 35, 38, 42, 44-46, 50, 53-61, 64, 65, 70, 71, 74-76, 78-82, 84, 85, 88, 89, 91 and 92 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al. (5328372) in view of Alpert (5564929). The Examiner has taken the position that Applicant's parent U.S. Patent 5,518,399 teaches using a fiberglass composite only with respect to the embodiment of Figs. 1-3 and not the embodiment including fiber bundles as claimed in the present application. Applicants' parent application discloses the use of a "post reinforcing rod 30" that is "preferably formed from reinforced plastics such as fiberglass polyester composites" (see column 5, lines 53-54) to make the endodontic dental posts of the invention. Applicant submits that this statement is not limited to the posts embodied in Fig. 3. A person of skill in the art reading this statement would have understood that all of the disclosed posts could be made from reinforced plastics such as fiberglass polyester composites. Specifically, the specification states at column 7, lines 35-37 with respect to Figure 8 that "(m)utable post 100 and mutable post reinforcing rod 130 are preferably formed from a bundle of reinforced plastic or other fibers cemented together at the central portion 101b and the lower portion 101c of fibers 101". Since the Applicant previously indicated that "reinforced plastics" includes such materials as "fiberglass polyester composites", one of ordinary skill in the art would understand that the "bundle of reinforced plastic or other fibers" would likewise be defined to include "fiberglass polyester composites" (see column 7, lines 34-38). In order to claim priority to the parent application, the exact words are not required in the specification. The specification is only required to have

enough of a description so that one of ordinary skill in the art would understand that the Applicant was in possession of the invention at the time the priority application was filed. It is well established that an Applicant is entitled to be his or her own lexicographer and that the meaning of a particular term may be defined by implication, that is, according to the usage of the term in context in the specification. Having disclosed at least once that reinforced plastics include such materials as “fiberglass polyester composites”, the Applicant did not have to repeat this statement each time he used the term “reinforced plastics”. Based on the specification, a person skilled in the art would have understood that each of the various reinforcing rods could have been made of reinforced plastics such as fiberglass polyester composites. Therefore, a person of skill in the art reading the specification would realize that the posts of Fig. 8 and 9 would also be made of fiberglass fibers, like those of Figs. 1-3. Thus, all the independent claims are drawn to subject matter which clearly predates the Alpert patent which should be removed as a reference. Applicants’ prior parent patent number 5,518,399 was filed September 21, 1993, clearly before Alpert’s filing date of August 17, 1994.

Additionally, Applicant submits that one of ordinary skill in the art would not be motivated to substitute the carbon fibers of Reynaud with the fiberglass fibers presently claimed. The present invention is directed to an endodontic dental reinforced post having a bundle of non-metallic and non-woven fiberglass fibers in a cured resin. The fibers and cured resin form a reinforced plastic composite. The resulting post is flexible, prefabricated, and adapted to extend from an apical end to a coronal end of a tooth canal. The Examiner has asserted that the Reynaud references shows a post comprising a bundle of non-metallic and non-woven fibers in a resin. Additionally, the Examiner has affirmed that the Reynaud reference shows the use of carbon fibers not glass fibers. The Examiner has further asserted that it would be obvious to one

of ordinary skill in the art to modify Reynaud to include the use of glass fibers as suggested by the Alpert reference. The Examiner indicates that this modification of Reynaud would be obvious to “make use of known alternative materials in order to obtain the desired known properties of those materials”. However, the Reynaud reference does not teach or suggest that material other than carbon fibers may be used. The Reynaud reference clearly provides that carbon fibers embedded parallel to one another in a resin matrix provide the desired elasticity desired. The Reynaud reference seeks to overcome the problems associated with the prior art by using carbon fibers that are parallel to one another and elongated in the axial direction of the peg. The Reynaud reference provides that the combined use of carbon fibers and axial orientation of the fibers produces the desired properties. The Reynaud reference provides no teaching or suggestion that any other type of fiber would produce the beneficial results. Applicant submits that the class of "high strength fibers" mentioned in Reynaud would be too numerous to lead one of ordinary skill in the art to select fiberglass fibers absent some specific teaching in the prior art. In fact, the Reynaud reference appears to teach away from the use of any other material. Specifically, the Reynaud reference teaches away from the use of metal alloys due to their corrosion and oxidation properties (see column 1, lines 12-18). Additionally, the Reynaud reference teaches that a peg including “a central thread or filament around which is moulded a synthetic resin which preferably contains fibers” has several drawbacks (see column 1, lines 24-27). The Reynaud reference continues by stating that “pegs manufactured in this way may be given interesting physical and mechanical characteristics but the pegs thus obtained are not totally satisfactory as their mechanical properties are far away from the natural characteristics of the dentine” (see column 1, lines 32-37). Therefore, one of ordinary skill in the art would understand from reading the Reynaud reference that the "disparity of the mechanical properties

between those of the peg and those of the dentine is a constant source of disturbance" (see column 1, lines 37-40). Absent some specific teaching or suggestion in Reynaud, one of ordinary skill in the art would not be motivated to use the fiberglass fibers disclosed in Alpert for the carbon fibers disclosed in Reynaud. Furthermore, the Alpert reference is directed to an entirely different type of post that is not pre-fabricated. The post disclosed in Alpert is a "flexible rope-like" device that is prepared during the root canal dental procedure (see column 3, lines 60-65 and column 4, lines 19-24) and shaped to fit the contour of the open root canal. One of ordinary skill in the art would not look to the post in Alpert when trying to produce a pre-fabricated post. Therefore, Applicant submits that the rejection has been overcome and requests reconsideration and allowance of the claims.

Applicant further asserts that claim 75 is patentable over the prior art. Neither the Reynaud nor the Alpert references disclose a composite comprising a twisted bundle of fibers. In fact, the Reynaud reference is specifically directed to the use of "fibers embedded parallel to one another" in order to obtain the desired mechanical properties. Therefore, the Reynaud reference clearly teaches away from the use of a twisted bundle of fibers. The purpose of the slow twist in the bundle of fibers is to reduce fracture lines in the dental posts that could develop from shaving or adjusting the post size by removing axial orientation of the fibers in one direction. For these reasons and the foregoing reasons, Applicant submits that the rejection has been overcome and requests reconsideration and allowance of the claims.

Claims 34 and 90 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al. (5328372) in view of Alpert (5564929) as applied to the claims above, and further in view of Kwiatkowski (4936776). Since these claims are dependent claims that depend from

allowable claims, Applicant submits that the rejection is overcome and requests reconsideration and allowance of the claims.

Claim 39 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Alpert (5564929) as applied to the claims above, and further in view of Al Kasem (5326264). Since these claims are dependent claims that depend from allowable claims, Applicant submits that the rejection is overcome and requests reconsideration and allowance of the claims.

Claims 40 and 52 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al (5328372) in view of Alpert (5564929) as applied to the claims above, and further in view of Weissman (5326263). Since these claims are dependent claims that depend from allowable claims, Applicant submits that the rejection is overcome and requests reconsideration and allowance of the claims.

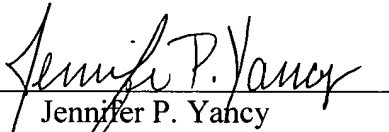
Claims 72 and 73 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al. (5328372) in view of Alpert (5564929) and Al Kasem (5326264) as applied to the claim 39 above, and further in view of Fujisawa et al. (4931096). Since these claims are dependent claims that depend from allowable claims, Applicant submits that the rejection is overcome and requests reconsideration and allowance of the claims.

Claims 83, 86 and 87 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Reynaud et al. (5328372) in view of Alpert (5564929) as applied to the claims above, and further

in view of Fujisawa et al. (4931096). Since these claims are dependent claims that depend from allowable claims, Applicant submits that the rejection is overcome and requests reconsideration and allowance of the claims.

For the foregoing reasons, Applicant submits that the claims of the present application are in condition for allowance. Therefore, Applicant respectfully requests reconsideration and allowance of the application.

Respectfully submitted,

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